

WHAT IS CLAIMED IS:

1. A thermophotovoltaic generator apparatus comprising:
  - a burner that is supplied with a fuel and an air, and that burns the fuel;
  - 5 an emitter heated by a combustion heat produced by the burner;
  - a photoelectric conversion cell that converts a radiant light from the emitter into an electric power;
  - a cell holder portion that holds the photoelectric conversion cell; and
  - a cooling device that causes a cooling liquid to receive a heat from the
  - 10 photoelectric conversion cell by contacting the cooling liquid and a back surface of the cell holder portion with each other,
  - wherein a surface of the cell holder portion that contacts the cooling liquid is a non-horizontal surface.
- 15 2. The thermophotovoltaic generator apparatus according to claim 1, wherein the cooling liquid includes at least two kinds of liquids.
3. The thermophotovoltaic generator apparatus according to claim 2, wherein the at least two kinds of liquids include two liquids that have a relationship in which one of
- 20 the liquids has a greater specific gravity and a lower boiling point than another one of the liquids.
4. The thermophotovoltaic generator apparatus according to claim 1, further comprising an external circuit that accelerates circulation of the cooling liquid.
- 25 5. The thermophotovoltaic generator apparatus according to claim 4, wherein the external circuit has a fan that improves a heat dissipation characteristic.
6. A thermophotovoltaic generator apparatus comprising:
  - 30 a burner that is supplied with a fuel and an air, and that burns the fuel;
  - an emitter heated by a combustion heat produced by the burner;
  - a photoelectric conversion cell that converts a radiant light from the emitter into an electric power;

a cell holder portion that holds the photoelectric conversion cell; and  
cooling means for causing a cooling liquid to receive a heat from the  
photoelectric conversion cell by contacting the cooling liquid and a back surface of  
the cell holder portion with each other,

5            wherein a surface of the cell holder portion that contacts the cooling liquid is a  
non-horizontal surface.